

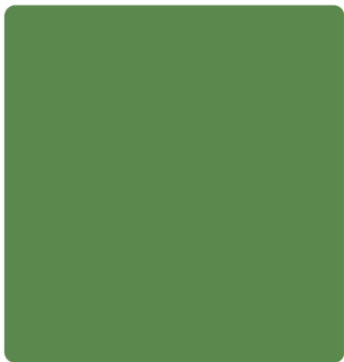


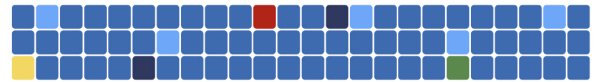
Viveracqua Hydrobond

Pooled mini bonds

CLIMATEFIT International best
practice factsheet

Case ID: 16





Summary

The Viveracqua Hydrobond project, initiated in 2014 in the Veneto region of Italy, showcases an innovative financial model for water infrastructure through the issuing of pooled minibonds. This model was developed due to the critical need for long-term financing solutions that align with the extensive lifespans of infrastructure projects, without imposing immediate financial burdens on consumers through increased water tariffs.

The Viveracqua consortium, comprising eight water utilities, collectively issued minibonds totaling €227 million between 2014 and 2017 and an additional €396.5 million between 2020 and 2022. These bonds were then aggregated and securitized into an Asset-Backed Security (ABS) to enhance investment attractiveness and diversify funding sources. This strategic financial arrangement was designed to reduce administrative costs and complexity, offering a sustainable financing mechanism while promoting stable water pricing for consumers.

The business model included the participation of the European Investment Bank (EIB) and other institutional investors, which provided substantial financial backing, thereby ensuring lower borrowing costs and enhanced credit standing for the minibonds. This project led to the stabilization of water service costs for end-users and provided a framework for financial planning and investment in public utility infrastructure. By extending the repayment period and securing favorable financing terms, the project demonstrates effective financial innovation to address and mitigate the impacts of climate-related challenges on water management systems.

Keywords: minibonds, credit enhancement, asset-backed securities, securitization

Actor(s) interviewed: Manager at Banca Finint

Cover photos: La Redazione (Top photo) Viveracqua (middle photo), Alisa Anton at Unsplash (bottom photo)

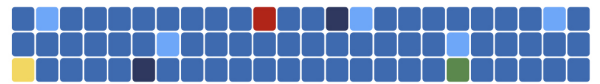
Further reading: [Viveracqua Hydrobond: When Infrastructure Investments Meet Securitization](#)

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Best practice information card (1 separate page)

Table 1. Viveracqua Hydrobond. Information card

Location	Veneto, Italy
Population size	4.9 million (2019)
Project area size	18,345 km ²
Area type	Mountains, coastal
Climate challenge	NA
Key Community System(s)	Water management
Objectives	Long term financing of water infrastructure in Italy
Climate challenge solution	The Viveracqua Hydrobond project in Italy provided a solution for financing water infrastructure upgrades. Water utilities formed a consortium and issued minibonds totalling €623.5 million to fund these projects. These minibonds were then bundled from time to time into an Asset-Backed Security (ABS) to attract broader investment. This structure aimed to achieve two key goals: securing long-term financing with a maturity matching as much as possible the infrastructure lifespan, and reducing administrative burdens for public water utilities (companies) in the participating municipalities.
Key benefits	The Hydrobond secured long-term financing with on average a 20-year maturity, aligning with the lifespan of the upgraded infrastructure. This eliminated the immediate need for water tariff increases, promoting financial stability for both water utilities and consumers. Secondly, by spreading out the repayment over a longer period, the Hydrobond potentially helped keep water bills stable for consumers.
Implementation status	2014 onwards
Investment volume (€)	30 million EUR
Key financing barriers	NA
Financial model	Pooled minibonds enhanced by a mutualistic capped cash guarantee provided by the issuers (and in part the financial arm of the Veneto region)
Financial sources	Public: European Investment Bank, Private: MSMEs (Water Utilities), Public: Financial arm of Veneto region
Financial instruments	Debt based instruments: Minibonds Fee/user charges: Water bills



Overview and timeline

Veneto region is located in the north and northeast of Italy, comprising the provinces of Venezia, Padova, Rovigo, Verona, Vicenza, Treviso, and Belluno. It is bordered to the north by Trentino-Alto Adige, to the south by Emilia-Romagna, to the east by Friuli-Venezia Giulia and the Adriatic Sea, and to the west by Lombardia (Lombardy) (see Figure 1). Between Lake Garda in the southwest and the Carnic Alps in the northeast, a hilly region that includes the Dolomites delineates Veneto's northern boundary. The Po, Adige, Brenta, Piave, and Livenza rivers drain the majority of the fertile plain that stretches to the Gulf of Venice in the southern portion. The mouths of these rivers create a large delta region with coastline lagoons.

In July 2014, eight water utilities in the Veneto region of Italy bypassed traditional bank loans by pooling minibonds they planned to issue. These pooled minibonds would then be used as collateral for an asset-backed securitization. This transaction was the first instance of small- and medium-sized enterprises (SMEs) self-financing in capital markets through securitization without the assistance of a bank as an intermediary during a difficult time for the Italian economy. In this case, the water utilities are the SMEs involved. This innovative method was also believed to open up new funding avenues for SMEs and lessen their reliance on conventional loans. This occurred when the banking industry was still deleveraging in response to regulators' stricter capital requirements put in place following the financial crisis of 2008. The SMEs organized a bond offering in the capital markets through a novel asset-backed securitization transaction in July 2014, marking the first instance of such a transaction in the Italian market. Specifically, the Viveracqua Consortium brought together eight water utilities. This consortium announced during its inception that they would issue minibonds totaling 150 million euros in July 2014. **The funds acquired by issuing Asset Backed Securities (ABS)¹ on the capital markets would then be used by the SPV² Viveracqua Hydrobond S.r.l. to subscribe the bonds for the same amount.**

¹ An asset-backed security (ABS) is a type of financial investment that is collateralized by an underlying pool of assets—usually ones that generate a cash flow from debt, such as loans, leases, credit card balances, or receivables. It takes the form of a bond or note, paying income at a fixed rate for a set amount of time, until maturity. Source: [Investopedia](https://www.investopedia.com/terms/a/asset-backed-securitization.asp)

² An SPV is a subsidiary entity created by a parent company, designed to serve a specific purpose. This purpose can range from isolating financial risk to securitising assets, and even conducting separate financial transactions. A parent company creates an SPV to isolate or securitize assets in a separate company that is often kept off the balance sheet. It may be created in order to undertake a risky project while protecting the parent company from the most severe risks of its failure. In other cases, the SPV may be created solely to securitize debt so that investors can be assured of repayment. In any case, the operations of the SPV are limited to the acquisition and financing of specific assets, and the separate company structure serves as a method of isolating the risks of these activities. An SPV may serve as a counterparty for swaps and other credit-sensitive derivative instruments. Source: Investopedia



Figure 1. Map of Veneto Region, Italy. Source: Britannica

According to Law 134/2012, the Viveracqua Hydrobond was the first example of minibonds—corporate bonds issued by unlisted companies—being securitized in Italy. Minibonds are a type of debt security issued by companies or organizations to raise capital. They are typically smaller in size compared to traditional corporate bonds, hence the name 'mini'. Additionally, **the term 'hydrobond' does not refer to a specific category of bond but is simply the name of the project.**

In 2014, Consorzio Viveracqua (the consortium) brought together eight managers of public water utilities. Through the program, eight minibonds were issued to finance 728 infrastructure renovation projects across the provinces of Belluno, Padova, Venezia, and Vicenza, with a total value of €300 million.

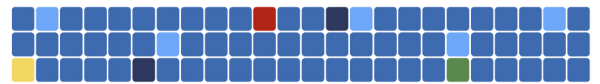
The characteristics of the program were the following:

- Each issue was carried out by a specific consortium manager (for 8 issues)
- The bonds were listed in the Extramot PRO segment of Borsa Italiana SpA³
- The maturity is twenty years (the longest minibonds in Italy) and the annual rate is fixed at 3.9%
- The only subscriber of the mini-bonds was the vehicle company for the securitization of credits Viveracqua Hydrobond Srl.

The Viveracqua Hydrobond structure emerged as an innovative financing solution for mid-sized corporations in the water and wastewater sector. Initially implemented in 2014, it enabled the pooling of eight corporate issuers. The European Investment Bank (EIB) played a crucial role by subscribing to nearly the entire €150 million issuance. This long-term financing, with the first issuance amortizing over 20 years, addressed a gap in the traditional banking channel, which would have been unlikely to offer such favourable terms to these individual companies. The structure's strength resided in combining the issuers' creditworthiness with an equity-like feature, enhancing their financial robustness vis-à-vis the capital markets.

The Hydrobond structure addresses two key challenges faced by the water and wastewater industry in Italy, particularly in the Northeast. The first challenge is water leakage in aging pipes. Many of the pipes serving end consumers are outdated and require ongoing maintenance or replacement to minimize leakage and water waste. This issue is well-known not only in the Northeast but across the entire Italian water sector. The second challenge is ensuring efficient water flow across diverse terrains. Moving water from source to user can be complex in hilly or mountainous regions. Effective water distribution necessitates a network of pipes and electrical machinery to direct water flow and serve even sparsely populated areas. The final challenge stems from the industry's structure. Unlike large corporations that benefit from economies of scale, water service providers in this case are typically small to medium-sized companies. This fragmented structure is a consequence of the varied geographical landscape. Having a single large corporation serve such a diverse

³ Borsa Italiana SpA is the Italian Stock Exchange



range of territories with differing needs would be inefficient. Therefore, the services are delivered by multiple, smaller companies. **The Viveracqua Hydrobond structure empowers these small to medium-sized companies to present themselves in a financially robust manner, comparable to a larger, consolidated entity.** This financial strength is achieved by combining the resources of multiple municipalities participating in the Hydrobond project.

The Northeast region of Italy is generally considered economically prosperous. Social considerations, such as subsidizing water bills for end consumers, were not a primary concern. Ensuring proper service delivery for both corporate and individual consumers was a priority, and the historically low level of non-payment for water bills in this region provided additional comfort to investors.

It is to be noted that the Hydrobond does not address any particular climate challenge. We selected this case for research because we believe that the Hydrobond is a funding and financing solution that can be applied to climate adaptation measures in response to climate change challenges.

Governance and key stakeholders

The **eight water utilities** joined together in the Viveracqua Consortium in 2014 were:

- Acque Vicentine S.p.A
- Alto Vicentino Servizi S.p.A
- Centro Veneto Servizi S.p.A
- Acque del Chiampo S.p.A
- Etra S.p.A
- ASI S.p.A
- BIM Gestione Servizi Pubblici S.p.A
- Acque del Basso Livenza S.p.A

Veneto Sviluppo, the financial arm of the Veneto Region, was established in 1975 by the Veneto Regional Council as a public development agency. Its main mission is to provide support to companies based in the region, enhancing their competitiveness and improving the quality of both the regional economy and infrastructure. They injected a 6 million EUR first-loss piece (in addition to the 24 million second-loss piece provided by the eight water utilities, totaling 30 million or 20% of the total bond issuance). The European Investment Bank (EIB) invested 145.8 million in the transaction.

Banca Finanziaria Internazionale S.p.A. (Banca Finint) established itself as a leader in the Italian securitization market, completing over 100 public transactions. Their expertise lies in structuring complex financial instruments, including mortgages, leasing arrangements, non-performing loans (NPLs), consumer credit, credit cards, telephone bills, and more. Banca Finint served as the arranger for the transaction, which took nine months to complete.

Finint has extensive experience and expertise in Structured Finance, having executed over 100 transactions totaling more than 60 billion EUR. They operate with a dedicated team of 100 professionals boasting over 23 years in the sector. Moreover, Banca Finint is active in advising companies interested in issuing minibonds on Borsa Italiana's Extra MOT Pro market.

The European Investment Bank (EIB) was the primary subscriber to the ABS (Asset-Backed Security) issued in July 2014, contributing €150 million to the total issuance. By acting as a major investor, the EIB likely played a key role in enhancing the overall liquidity and attractiveness of the ABS for other institutional investors. In addition to the EIB's 145.8 million EUR stake, the ABSs were subscribed by two banks (Cassa Rurale ed Artigiana di Brendola for 1 million EUR and Veneto Banca for 1.5 million EUR) and a Pension Fund, Solidarietà Veneto (1.7 million EUR).

The European credit rating landscape experienced a shift towards

- Increased participation of private debt funds demanding specific rating characteristics and
- A rise in unsolicited ratings requested by investors rather than bond issuers.

European Securities and Market Authority regulations restricted credit rating agencies operating in Italy to those recognized by the authority. As of July 2014, the most prominent agencies included CRIF Rating Agency, Moody's, Standard & Poor's, and Fitch.

ABSs issued by Viveracqua Hydrobond did not receive a formal credit rating. This lack of assessment by a credit rating agency left investors without an official evaluation of the ABS's capacity to meet its obligations, including timely payments and eventual redemption of the notes. To partially address the concern regarding the absence of a formal rating for the ABS, each minibond received an unsolicited rating from **CRIF, a recognized credit rating agency**. These unsolicited ratings for the water companies ranged from the highest rating of "BBB+" (investment grade) to the lowest of "B" (highly speculative), with an average rating of "BB+" (non-investment grade).

Table 2. Viveracqua Hydrobond. Key stakeholders and their responsibilities or roles

Stakeholder	Type	Role and responsibilities
Banca Finint S.p.A	Private	Banca Finint played an advisory and arranger role in the entire process. Moreover, Banca Finint was particularly active in advising companies interested in issuing minibonds on Borsa Italiana's ExtraMOTPro market.
Viveracqua Consortium	Private	The Consortium represents an integrated system for Veneto's water industry. When it was established, the objectives were to: improve Veneto's water service; lower water costs for the end user; create synergies by managing specific processes collectively (e.g., economies of scale on raw material purchases or economies of scope by sharing overhead expenses); and facilitate easier access to sources of financing that would otherwise be difficult to tap due to each company's small stand-alone size.
European Investment Bank	Public multi national financial institution	The European Investment Bank (EIB) acted as a major investor in the Viveracqua Hydrobond project. Their significant contribution (€150 million) helped increase the overall attractiveness of the project for other investors. By participating as a primary investor, the EIB likely signaled confidence in the Hydrobond structure and supported long-term financing for vital water infrastructure upgrades in the Veneto Region.
Veneto Sviluppo S.p.A	Public	They collaborated in structuring the entire Hydrobond issuance, alongside Finint (financial group). They also provided a €6 million guarantee to enhance the overall creditworthiness of the ABS issued. Finally, they managed the "Initial Cash Reserve Account," a buffer fund established to address potential shortfalls from any water utility that might default on their financial obligations.
Securitisation Services S.p.A	Private	Securitisation Services S.p.A acted as Servicer, Calculation Agent, Representative of the Noteholders, and Corporate Servicer. This has now been incorporated into the Finint group, and is now a part of Banca Finint.
BNP Paribas Securities Services	Private Bank	BNP was the Account Bank and the Principal Paying Agent in the Hydrobond.
Finint Investments SGR S.p.A	Private	Cash Manager
SINLOC-Sistema Iniziative Locali	Private	Monitoring Agent
CRIF	Private	Provided unsolicited rating to each minibond
Acque Vicentine S.p.A	Private	Water utility company, part of the Viveracqua Consortium
Alto Vicentino Servizi S.p.A	Private	
Centro Veneto Servizi S.p.A	Private	
Acque del Chiampo	Private	
Etra S.p.A	Private	
BIM Gestione Servizi Pubblici S.p.A	Private	
Acque del Basso Livenza	Private	
ASI S.p.A	Private	

Business model & financial model

Business model

In order to be a member of the Viveracqua Consortium, companies had to meet the following requirements:

- Be in-house providers⁴ (under Italian Law 152/2006)⁵
- headquartered in Veneto and strongly rooted in the territory
- not listed on the Italian stock exchange

The aims of the consortium Viveracqua were as follows:

- generating synergies by managing specific processes on a collective basis (e.g., economies of scale on raw material purchases or economies of scope by sharing overhead expenses);
- promoting easier access to sources of financing otherwise difficult to tap due to the small stand-alone size of each company;
- improving the water service in Veneto; and
- reducing water costs for the final customer.

The Viveracqua Hydrobond structure offers benefits to two key stakeholders: the participating corporations and the final consumers.

- **Corporations:** The long-term financing provided by the bond issuance allows them to match the duration of their debt with the lifespan of the water upgrades they are financing. This financial alignment removes pressure to raise water tariffs in the short term to service the debt, promoting financial stability.
- **Final Consumers:** By mitigating the pressure on corporations to raise water tariffs, the Viveracqua Hydrobond structure ultimately benefits end users. The corporations can invest in infrastructure improvements using the bond proceeds without needing immediate tariff increases, resulting in cost stability for consumers.

The SPV acts as a central hub for the Viveracqua Hydrobond structure. It subscribes to the bonds issued by the individual corporations, which serve as assets for the SPV. The collected cash acts as a reserve to address potential delays or defaults from individual issuers. As the bonds are semi-annual, the issuers' main responsibility involves servicing the bi-annual interest payments and eventual principal repayments. The SPV collects these payments from the corporations and uses them to redeem the notes it issued.

Roughly 75% of Veneto's population, or 473 municipalities and 3.5 million households, were covered by the consortium's companies as of July 2014. Regarding geographic distribution, the consortium encompassed all of Veneto, accounting for around 80% of the region's land area.

The characteristics of the program were the following:

- Each issue was carried out by a specific consortium manager
- The bonds were listed in the Extramot PRO segment of Borsa Italiana SpA
- The maturity is twenty years (the longest minibonds in Italy)
- the annual rate is fixed at 3.9%.

While the eight minibonds were issued by the individual corporations, they were not directly purchased by investors. Instead, **a special purpose vehicle (SPV) called Viveracqua Hydrobond Srl acted as the sole subscriber**. These minibonds subsequently served as the underlying assets for a securitization transaction. The securitization process involved the pooling of these minibonds and the issuance of a single, senior security known as an Asset-Backed Security (ABS).

A guarantee of six million euros from Veneto Sviluppo, a financial corporation in the Veneto Region, and several "cash reserves" (money from bond issuance proceeds) from consortium members of the institutions were linked to this ABS asset. The ABS has a fixed yearly rate of 4.2% and a twenty-year maturity. The EIB was the primary subscriber, contributing 150 million EUR. The ABSs were subscribed by two banks (Cassa Rurale ed Artigiana di Brendola for 1 million EUR and Veneto Banca for 1.5 million EUR) and a Pension Fund, Solidarietà Veneto (1.7 million EUR). These subscribers are not investing in individual mini-bonds but in the pooled bond. The contractual structure of the ABSs is shown in Figure 2.

⁴ The term "in-house provider" in the context of the Viveracqua Consortium and Italian Law 152/2006 likely refers to companies that are vertically integrated within the water management system and directly provide water services to end-users. This means a company is involved in multiple stages of the water management process, potentially including water abstraction, treatment, distribution, and wastewater collection/treatment. These companies are not simply acting as wholesalers or intermediaries but have a direct customer base and are responsible for delivering water services to end-users (households, businesses).

⁵This law, also known as the "Environmental Code," establishes a regulatory framework for environmental protection in Italy.

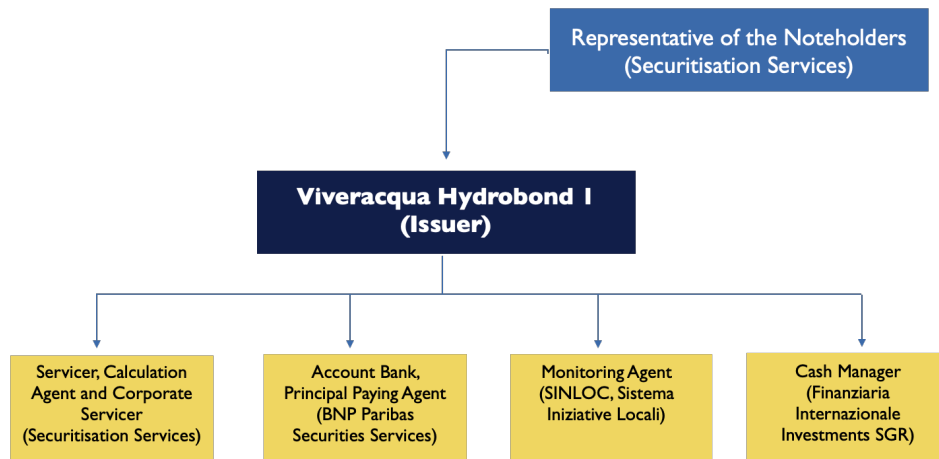


Figure 2: Summary of the contractual structure behind the ABSs issued by Viveracqua Hydrobond. Representative of the Noteholders (Securitisation Services) Viveracqua Hydrobond 1 (Issuer) Servicer, Calculation Agent and Corporate Servicer (Securitisation Services) Account Bank, Principal Paying Agent (BNP Paribas Securities Services). Source: Gatti et al. (2016)

This ABS offered several features:

- **Guarantee:** The ABS was backed by a €6 million guarantee from Veneto Sviluppo, a regional development agency for the Veneto Region.
- **Cash Reserves:** Additional security came from a reserve pool of funds established from a portion of the proceeds collected from the minibond issuances by the member institutions.
- **Maturity and Coupon Rate:** The ABS mirrored the minibonds with a 20-year maturity and a fixed annual coupon rate of 4.2% (EIB, 2014).

Investors:

- **Primary Subscriber:** The European Investment Bank (EIB) acted as the primary anchor investor, subscribing to the full €150 million value of the ABS issuance.
- **Secondary Investors:** Participation from additional institutional investors included Solven Pension Fund, Veneto Banca, and BCC Brendola.
- **Credit Rating:** The creditworthiness of the ABS was assessed by CRIF, a leading Italian credit rating agency.

The first phase of the Hydrobond (see Figure 3) structure involved eight separate bond issuances by the participating corporations. Each bond offering took the form of a minibond, a debt security typically issued by small and medium-sized enterprises (SMEs) in accordance with the regulatory framework established by the 2012 Italian Decreto Sviluppo (Decree). These minibonds featured a 20-year maturity with a weighted average life of 12 years and a fixed annual coupon rate of 4.2%. Collectively, the eight issuances raised a total of €150 million. The bonds were unsecured and intended for trading on Borsa Italiana's dedicated platform for such instruments, ExtraMOT Pro. In the Italian context, a debt instrument is issued by a public or private company (typically an SME) pursuant to the legislative framework introduced by the 2012 Decreto Sviluppo. Minibonds generally have a value less than €500 million. A secondary market for minibonds exists in Italy, facilitated by Borsa Italiana's ExtraMOT Pro platform.

The proceeds from the bond issuance were earmarked for financing infrastructure investments within the Veneto Region's integrated water system over a four-year period (2014-2017). The total estimated value of these investments was €300 million.

- €136 million was allocated for improvements to the water distribution and sanitation network. This included the construction and upgrades of 560 kilometers of water mains and sewer pipes, alongside facility enhancements aimed at improving water purification. These improvements were projected to benefit over 500,000 people by reducing levels of phosphorus, nitrogen, and carbon in the water supply.
- €164 million was designated for ongoing maintenance and upgrades to the existing water network.

The second phase involved Viveracqua Hydrobond Srl (SPV) (see Figure 3). This SPV acquired the minibonds issued by the corporations in phase 1. These minibonds then served as the underlying collateral for an ABS.

This ABS had several key features:

- **Fixed Coupon Rate:** It offered a fixed annual coupon rate of 3.9%.
- **Extended Maturity:** The ABS had a longer maturity date (July 2034) compared to the minibonds. This accounted for potential delays in the minibond repayment schedule.
- **Amortization Plan:** The ABS mirrored the amortization schedule of the minibonds, with a weighted average life of 12 years

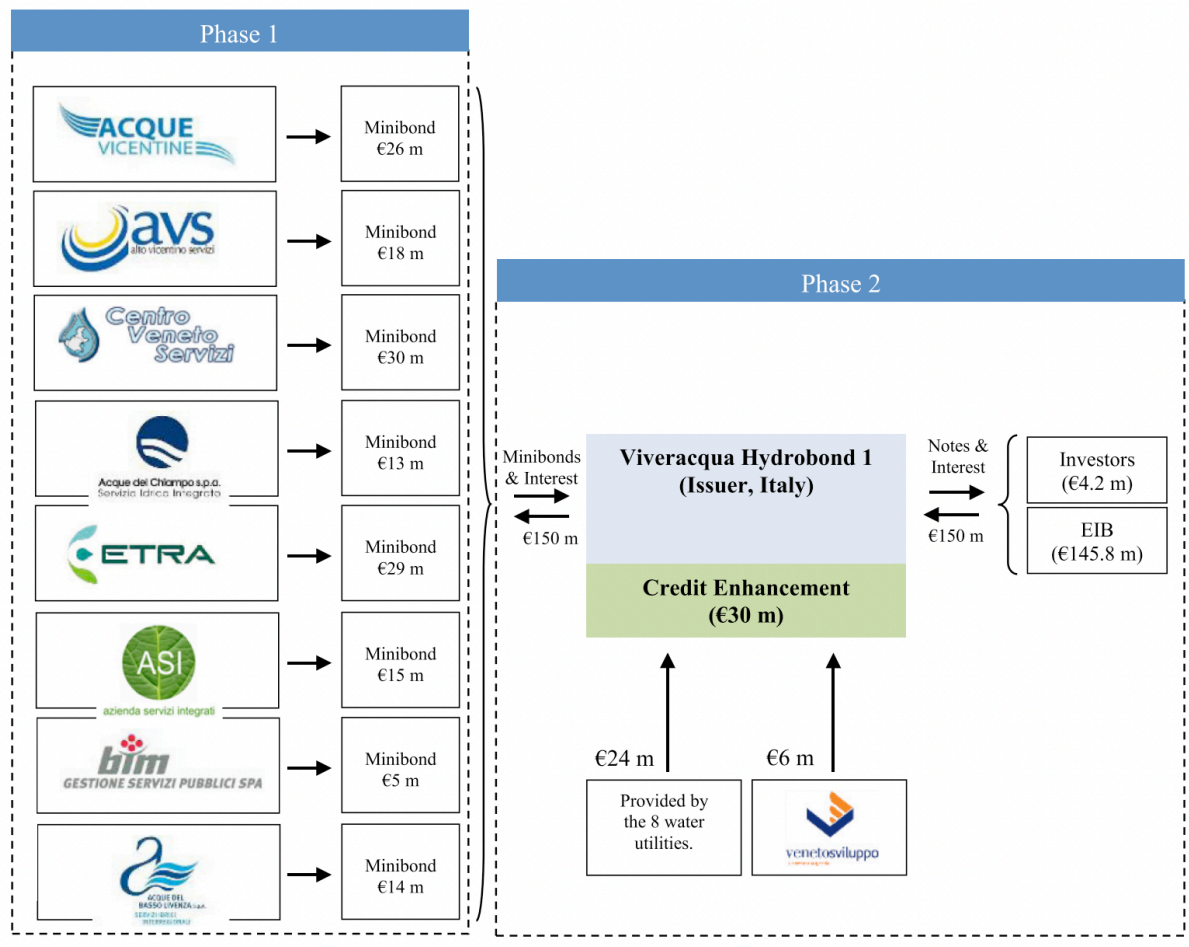


Figure 3: Hydrobond Issuance. Source: Gatti et al. (2016)

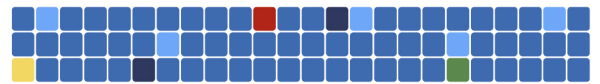
The **key beneficiaries** in this project are:

1. Water utilities, who now have access to long term financing to upgrade their infrastructure
2. Investors, through having a predictable and stable source of returns over an extended period of time. By investing in the ABS, investors gain exposure to a pool of minibonds from multiple water utilities, spreading the risk and potentially mitigating the effects of defaults from any single user
3. Consumers also benefit from this model, since they see an improvement in water infrastructure without having any tariff increases.

Banca Finint, the financial intermediary for the Viveracqua Hydrobond structure, played a key role in summarizing the project's features. This included managing the bond issuance, implementing credit enhancement mechanisms, overseeing the creation of a term sheet, and drafting legal agreements. They assisted issuers through various internal approval stages and defined the overall financial operation with investors. The term sheet and operational details were presented to potential investors, notably the EIB, which accepted the concept of establishing a systemic financing solution for the water and wastewater industry in Northeast Italy. Subsequently, the approval process for individual issuers commenced.

A critical step involved presenting the risk-sharing element to the shareholders (i.e., municipal owners).

This transparency ensured that a portion of the bond proceeds would be retained by the SPV, guaranteeing the performance of each issuer and collectively safeguarding the water utilities involved. Legal requirements mandated specific approval steps through shareholder meetings for each participant in the bond issuance. Once these approvals were secured, the focus shifted to preparing the comprehensive legal framework, including documentation for the bond issuance and contracts governing the SPV's operations. These contracts



detailed the management of cash flows, encompassing bond repayments and interest payments, ensuring proper fund distribution to the SPV's investors.

The Viveracqua Hydrobond structure highlights a unique ownership dynamic where participating corporations are owned by municipalities, with mayors of the respective service territories serving as owners. Many of these corporations are majority-held by groups of up to 70 municipalities, each contributing varying equity stakes. The structure implemented a cash collateral mechanism to enhance the creditworthiness of all issuers. **Twenty percent of the bond proceeds, including the contribution from Veneto Sviluppo, was retained by the SPV (Viveracqua Hydrobond Srl) as a buffer against potential shortfalls from underperforming issuers during the bond's term.** This risk-sharing element mitigates risks associated with individual issuer performance, providing a single point of protection for investors.

The Viveracqua Hydrobond structure relies on a well-defined mechanism for bond repayment over a 20-year period. **Participating corporations collect water bills from residential and commercial customers within their service areas, which constitute the primary source of funds for bond repayment.** Water bill tariffs in Italy are regulated to ensure "full recovery cost," incorporating infrastructure investments like pipe replacements or machinery upgrades into tariff structures spread over asset lifespans. Thus, bond repayment aligns directly with water bill collections, covering operational costs such as employee salaries and servicing the debt incurred through bond issuance.

Financial model

Corporate bonds are debt instruments used by companies to raise capital. They are typically issued in denominations of 1,000 EUR or more, making them suitable for institutional investors and wealthy individuals. Corporate bonds offer fixed or variable interest payments and carry a lower risk profile due to the size and established nature of the issuing companies. They are also traded on secondary markets, providing liquidity through buying and selling before maturity.

Minibonds are a smaller version of corporate bonds, issued in denominations of less than 1,000 EUR. They aim to attract a wider range of investors, including retail investors, by offering a lower minimum investment amount. While minibonds can offer fixed or variable interest rates, they are generally considered higher risk due to the smaller size of the issuing companies and their potential lack of a proven track record. Additionally, minibonds are typically less liquid than corporate bonds, meaning they may be harder to sell before maturity.

The Viveracqua Hydrobond addressed the inherent risk associated with minibonds through securitization. By pooling minibonds and potentially adding credit enhancements, the structure transformed potentially risky individual investments into a more attractive and diversified option for investors. Holding the ABS, investors were not solely exposed to the performance of any one water utility but shared the risk across all eight participating utilities within the ABS, offering a more diversified investment profile.

To enhance the creditworthiness of the Viveracqua Hydrobond structure, a €30 million credit enhancement facility was established in accordance with Italian law. This facility was funded jointly by Veneto Sviluppo and the eight participating water utilities. On the issuance date (July 29, 2014), an "Irregular Pledge Agreement" went into effect. Under this agreement, Veneto Sviluppo and the water utilities deposited an initial sum of money into a dedicated "Initial Cash Reserve Account." This reserve served as a guarantee, totaling 20% of the entire transaction value, in case any company failed to meet its financial obligations. The breakdown of this guarantee was as follows:

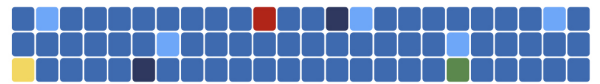
- Veneto Sviluppo: Contributed 4% of the total credit enhancement amount.
- Water Utilities: Collectively contributed the remaining 16%. Each utility deposited 16% of the proceeds they raised through their minibond issuance into the Initial Cash Reserve Account.

In the event of a default by one or more issuers, the reserve would be used in a specific order:

- Defaulting Issuer(s): Funds deposited by the defaulting company/companies would be used first.
- Veneto Sviluppo: If the defaulting issuer's contribution was insufficient, funds from Veneto Sviluppo would be utilized.
- Performing Issuers: Only after exhausting all resources from Veneto Sviluppo, the remaining performing companies would be called upon to contribute proportionally based on their initial deposits.

This structure ensured that the risk of default was mitigated for investors, thereby increasing the overall attractiveness of the Viveracqua Hydrobond model.

The initial issuance was replicated in 2017, and four additional issuances from the same consortium in Northeast Italy increased the total transaction size to €227 million. The EIB remained the largest subscriber throughout these transactions. By 2020, the Viveracqua Hydrobond structure had gained significant market recognition, leading to a diversification of the investor base in the 2020 issuance. While the EIB reduced its participation to 50%, other European institutional investors and the development bank, Cassa Depositi e Prestiti (CDP), entered the financing pool. CDP is also a major player in the Italian infrastructure sector. The latest



iteration in 2022 maintained the core consortium of issuers. The financing structure resembled the 2020 model, with the EIB subscribing to 50% of the issuance and the remaining portion taken up by a combination of Italian and international institutional investors. From the available information, it appears that the 2022 iteration of the Hydrobond was a new issuance rather than a reissue of the original bonds.

Enabling conditions

Changes in Italy's legal framework liberated a corporate bond market that had long been inadequate given the average size of Italian companies. (SMEs constitute 99.9% of all businesses in the country.) **These changes were ushered in by the 2012 Decreto Sviluppo (Development Decree)**, which eliminated the primary legal and tax barriers preventing unlisted firms from issuing bonds and paved the way for the minibond market. Additionally, the new securitization law passed in 2013 enabled the financing of minibonds through special purpose securitization vehicles.

Literature emphasizes that the success of the 2014 issuance depended on persuading municipalities with potentially diverse political affiliations to participate. The achievement of long-term financing was contingent upon leveraging the financial strengths of each issuer alongside a collectively capped cash reserve to safeguard the "first loss tranche" of the bond pool. This innovative structure effectively addressed the challenge of potentially differing political priorities among the municipal owners associated with the individual issuers.

Outcomes

The Viveracqua Hydrobond structure is designed to minimize administrative burdens for participating corporations compared to traditional debt financing methods. The interview highlighted that beyond exceptional circumstances, such as waiver requests or bond term modifications, the time commitment for corporations in managing their obligations under the Hydrobond structure is comparable to other debt instruments. The SPV, acting as a subscription agent, operates with minimal staffing, ensuring that collected funds from the bonds are solely used to service the notes. While the SPV primarily functions as a conduit, it still prepares basic financial statements at year-end to reflect its assets (the bonds) and liabilities (the notes). Overall, the Viveracqua Hydrobond structure aims to minimize administrative burdens for participating corporations compared to traditional debt financing methods, but we do not have any information on the reduced administrative costs.

The interview for this case highlights that since this was the first time companies used the Viveracqua Hydrobond system, it created a new kind of challenge for them. Even though the project itself wasn't very expensive, the way it worked was completely new. This meant extra work for the companies' admin staff, finance departments, and the CEOs to understand and operationalise the business and financial model. Significant administrative resources were spent to navigate the unfamiliar aspects.

Lessons learned

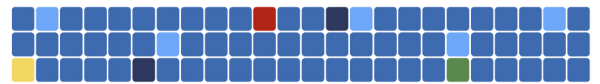
Successes and limitations

The interview highlights that the success of this bond is in part due to the coverage of the risk by Veneto Sviluppo, avoiding asking mortgage collateral to the participants of the Consortium or the local entities, and the reaching the amount necessary to access the EU community resources, namely the EIB. Veneto Sviluppo was an important driver, but all other issuances finalised after 2014 took place without it.

According to the study by Gatti et al. (2016), the Hydrobond structure provided a unique avenue for water utilities to obtain funding for crucial infrastructure projects through minibond issuance. The extended maturity period of 20 years aligned with the lifespan of the upgraded assets, alleviating the need to raise water bills for users. This enhanced financial stability for both water utilities and consumers. Compared to traditional financing methods, the Hydrobond structure offered a streamlined process for participating corporations. The SPV, serving as a central hub, reduced administrative burdens for water utilities. Securitization of the minibonds into a single ABS potentially attracted a broader range of investors, resulting in more favorable borrowing rates.

This case also highlights the following successes that municipalities adopting this structure can benefit from:

- Capital Markets: Participation in the capital markets, previously inaccessible
- Favourable Rates: Potentially lower borrowing costs compared to traditional options.
- Improved Credit Standing of ABSs



The study by Gatti et al. (2016) also highlights that fixed-income investors also faced a novel risk landscape when evaluating the inaugural Viveracqua Hydrobond transaction. Several key factors emerged as potential vulnerabilities:

- **Regulatory Risk:** The issued ABSs have a maturity date of 2034. Over such a long amortization period, modifications to the regulatory framework governing water and sewer tariffs were a possibility. These changes could potentially hinder the minibond issuers' ability to meet their repayment obligations.
- **Concentration Risk:** All eight participating companies operated within the integrated water service sector, serving municipalities located in the Veneto Region and bordering areas of the Friuli Venezia Giulia Region. As Viveracqua Hydrobond Srl lacked significant assets beyond the minibonds and credit enhancements, the SPV was exposed to significant concentration risk. This exposure came from both sector-specific risks (environmental concerns, potential tariff revisions) and geographic concentration risk (overall economic performance of the region, vulnerability to natural disasters or hazards).
- **Credit Rating Absence:** The ABSs lacked a credit rating from any major rating agency, leaving investors without an independent assessment of the structure's capacity to fulfill its obligations, including note repayments and redemptions. To partially address this concern, each minibond received an unsolicited rating from CRIF (ranging from BBB- to B, with an average of BB+).
- **Liquidity Risk:** While an application was made for the minibonds to be listed on Borsa Italiana's ExtraMOT PRO platform, the specific market characteristics created uncertainty regarding the minibonds' ability to offer sufficient liquidity throughout their lifespan. As a result, there was a possibility that Viveracqua Hydrobond Srl might be forced to hold the minibonds until maturity. Furthermore, delisting remained a risk despite efforts by the issuers to maintain the listing.

The interviewee also emphasised that €6 million guarantee from Veneto Sviluppo provided some credit enhancement. However, for wider adoption, the model might need to be refined to minimize reliance on public guarantees. As a novel financial structure, the Hydrobond might face initial hesitation from some investors due to a lack of familiarity. Extensive communication and awareness raising will be needed to attract broader investor participation.

Transferability conditions and potential

While the Hydrobond itself was not issued by a Public Administration (PA) entity, this case underscores the potential for collaboration among municipalities to issue municipal bonds. Local government funding agencies could provide the necessary resources for smaller municipalities to access capital markets. This example demonstrates how municipalities can issue green bonds, appealing to both local and international investors and potentially securing more competitive funding rates.

Municipalities can also benefit from forming consortiums with others facing similar infrastructure challenges. This collaborative approach spreads risks and attracts investment. For the Hydrobond structure to be transferred or replicated, each member municipality could share responsibility for the agency's operations, acting as mutual guarantors during difficult times, rather than relying solely on the central government. This approach can foster synergies among participating municipalities, albeit requiring legal counsel to navigate regulatory complexities.

The ABSs issued by Viveracqua Hydrobond benefited from substantial risk diversification and a credit enhancement facility, transforming a set of otherwise less attractive minibonds into highly desirable investments. Furthermore, these ABSs offered investors a higher yield than similar-risk instruments such as Italian sovereign bonds, compensating for their reduced liquidity.

While it is premature to definitively assess the transferability potential of the Hydrobond, promising indications exist. This approach represents a method to tackle persistent issues related to financing specific infrastructure projects, ideally without extensive public resources. It could provide a crucial layer of security for participants, potentially broadening interest and facilitating broader adoption of the Hydrobond model.

Related Factsheets

Other cases that include a bond, are Hampton Environmental Impact Bond (ID 08), Paris CB (ID 09), and Gothenburg Green Bond (ID 18).

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