Opening the Code: The World Bank's First Open Source Software Release and Its New Approach to a Public Good

A Structural Shift Toward Open Source Software

We've adopted a new open source software (OSS) licensing framework at the World Bank, and our first release under this structure—the Metadata Editor, a tool for structuring and publishing statistical information—is now openly available on our GitHub under the MIT License, supplemented by narrowly scoped Bank-specific provisions.

This is a milestone. After years of effort across our Development Economics (DEC) and Information and Technology Solutions (ITS) units, among other parts of the institution—and with the steady support of open source advocates across the Bank—we now have clear institutional guidance for how to share Bank-developed software publicly and responsibly.

In the past, legal and operational complexities prevented us from releasing code under open licenses. With this new framework, we can now share software developed through public finance more openly, while still protecting the Bank's unique legal position. This shift directly advances the Bank's Knowledge Compact for Action, which puts knowledge on par with financing and commits us to using our intellectual assets as global public goods.

Why We're Changing How We Release Software

This isn't just a licensing update—it reflects a deeper shift in how we think about digital public goods. Tools developed through public funding should be reusable, adaptable, and available well beyond their original use cases. In many settings, proprietary or consultant-built systems have proven costly and difficult to sustain. Open source offers a more flexible and transparent alternative.

What Is Open Source Software?

Open source software (OSS) is widely used across public and private sectors because it supports flexible, transparent, and cost-efficient solutions. It encourages interoperability and reuse— qualities that are especially valuable in settings where systems must be adapted to local needs or verified independently.

Unlike proprietary software— where usage is often restricted and the underlying code is inaccessible— OSS makes its source code openly available. This allows anyone to use, modify, inspect, and redistribute the software without needing to negotiate individual permissions. By removing these barriers, OSS enables broader collaboration and long term sustainability, particularly in resource-constrained or decentralized environments.

By adopting OSS licensing, we're enabling governments, researchers, and partners to access software that might otherwise remain siloed in Bank projects. This extends the lifespan of our investments and supports our broader commitments to data transparency, local capacity, open access publications, and global public goods.

Removing Barriers to Reuse

Previously, releasing software required custom legal terms and one-off negotiations. That made reuse hard and slowed things down. Now, with a standardized licensing structure, we can reduce transaction costs and avoid procedural delays.

This makes our tools more accessible. Public institutions can adopt and adapt them without legal roadblocks. Civil society organizations can repurpose them for service delivery or advocacy. Academic and research institutions can integrate them into training and analysis. And developers—including small firms—can build on them to create local solutions.

By shifting from institution-specific deployments to open releases, we're positioning our tools to be sustained, extended, and adapted in the places they're needed most.

From Open Data to Open Code

Our open knowledge journey started with data. Over the past decade, we've launched open data platforms, public dashboards, and global indicators. But for many public institutions, data alone isn't enough. They also need tools to manage and use that data effectively.

Releasing code alongside data lets users apply proven methods without having to rebuild systems or rely on proprietary vendors. It also strengthens reproducibility. Our Reproducible Research Repository houses scripts, documentation, and data that make analytical work verifiable and usable. Open code takes that transparency a step further.

Setting up a World Bank GitHub account was a foundational step. It created a shared platform for publishing code, engaging contributors, and aligning with external technical communities. With the new licensing framework in place, we can now release code with the same confidence we bring to our data and publications.

Reproducible Research Repository

The World Bank's Reproducible Research Repository provides a central platform for sharing the code, documentation, and—in many cases—the data used in Bank-authored studies.

It complements the Bank's open source efforts by supporting full reproducibility: users can verify results, adapt methods, and extend analytical work across new contexts.

An Inaugural Application: The Metadata Editor

The Metadata Editor was originally developed to help meet our internal standards under the World Bank's Development Data Quality Policy. But demand quickly expanded. National statistical agencies, development partners, and research institutions all saw its value.

To make the tool more widely available, Olivier Dupriez, Deputy Chief Statistician, approached the Bank's Legal unit (LEG) with a request to release it under an open source license. That request became the catalyst for the Bank-wide licensing model now in place.

Since its release, the Metadata Editor has already seen partner uptake. PARIS21 is financing additional development. INEGI, Mexico's national statistics agency, is co-designing new features with Bank staff, supported by the Inter-American Development Bank. These kinds of collaborations are made possible by open source licensing—not one-off handoffs or siloed builds.

Overcoming Barriers to External Release

Under previous arrangements, sharing tools like this externally required lengthy internal processes and imposed numerous restrictions on the recipients of the code. These constraints often discouraged release or delayed implementation in partner settings. By applying a standard open-source license—with narrowly scoped Bank-specific additions—the Metadata Editor can now be published in a form that is immediately usable, modifiable, and redistributable by others.

A Model for Reuse

The Metadata Editor reflects a broader category of software that we often build: tools with limited commercial value but high public utility. They're specific enough to meet operational needs, but flexible enough to be reused, localized, and improved by others.

By releasing this tool under a permissive license, we've created a replicable model for low-cost, standards-based, public interest software—especially in settings where local adaptation and long-term use matter more than commercial packaging.

Addressing Legal Complexity

Licensing may seem like a minor detail—a line in a file, a dropdown on a platform. But getting it right took substantial work. Most open source licenses are designed for national legal systems and assume commercial actors. They rarely account for the privileges and immunities that apply to organizations like the World Bank.

We built a structure that would preserve those legal protections while remaining compatible with open licensing norms. That meant pairing a standard license (like MIT) with a short rider to preserve the Bank's unique legal protections and ensure appropriate use of its name and symbols.

Every software release goes through a four-step check:

1. **Confirm permissive licensing**: Base the release on a widely accepted open license (e.g., MIT License).
2. **Apply institutional safeguards**: Attach the Bank-specific rider to preserve privileges and immunities, define dispute resolution, and protect names and emblems.
3. **Screen for exclusions**: Verify that the tool does not handle sensitive personal data, underpin security operations, or include unlicensed third-party code.
4. **Clear through internal review**: Submit the release for LEG and OSPO review before publication.

This framework also includes guidance for how open licenses are communicated and implemented—internally and externally. It replaces ambiguity with a consistent, defensible approach.

Supporting Sustainable Reuse

A reusable framework makes OSS releases possible. But scalable implementation requires support. That's where the World Bank's **Open Source Program Office (OSPO)** comes in.

OSPO provides internal coordination and review, manages our GitHub presence, develops guidance, and helps teams navigate licensing and publication. It also represents the Bank in external open source communities, including the UN Open Source Community of Practice (now Open Source United).

Going forward, all teams considering open source release should contact OSPO as the point of entry.

What's Next

We're developing an Approved Licenses List and an Excluded Licenses List to guide future releases. These tools will help ensure consistency and simplify review.

The adoption of this framework reflects sustained collaboration across ITS, DEC, LEG, and other parts of the World Bank. The goal is clear: make it easier to release OSS tools that others can build on. Each new release will help refine and improve the model. But the foundation is now in place—and we're ready to build on it.

Resources for Further Information:

- **World Bank Open Data:** data.worldbank.org
- **World Bank GitHub:** https://github.com/worldbank
- **Metadata Editor:** https://github.com/worldbank/metadata-editor
- **World Bank Reproducible Research Repository:** https://reproducibility.worldbank.org/index.php/home
- **World Bank Knowledge Compact:** https://www.worldbank.org/en/about/unit/brief/knowledge-bank
- **MIT License:** https://opensource.org/license/mit

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