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Hello, I'm Abigail Paterson from the U.S. Postal Service Office of Inspector General. And welcome to our podcast.

Today, my colleague John Althen and I will be talking about some findings from our recently released research paper, the Paper Shortage and Its Effects on Mail.

Thanks, Abby. Paper production is one of the largest industries in the world, and paper is an essential part of products that we use every day, including the mail. But the paper market has been volatile over the last decade.

It definitely has. And it was especially volatile during the COVID 19 pandemic. The supply of paper products has fluctuated greatly, and specifically, the demand for graphic paper has been changing. This is the type of paper most often used in mail, and it includes products like envelopes, magazines, stationery, and newspapers.

Yeah, that's right. The world saw a shortage of graphic paper in 2022. You looked into some of the major causes of the shortage, especially with graphic paper and how it could affect the Postal Service and its stakeholders.

That's right. So, let's go over some key issues around the paper shortage and what the OIG found out in its research.

First, is there a shortage in packages and packaging paper as well? No, actually, packages and packaging paper fall under a different category. Our work focused on the supply of graphic paper, but packaging paper does play a role in the story.

That's right, John. It certainly does. And there are several connected factors that led to the graphic paper shortage, including changes in paper mills, paper price changes and disruptions in the supply chain.

So why don't you go over some of the changes in paper mills? Sure thing, Abby. There are two time frames to look at. The first is before the COVID 19 pandemic, and the next is the period during and after the pandemic. American demand for graphic paper had already been shrinking significantly since the rise of the Internet, and it's no surprise that more transactions and communications were taking place online.

At the same time, the base of North American paper producers has experienced significant shifts. In 1997, there were over 20 different North American paper producers, and no one producer held more than 20 percent of the supply base. But since then, the supply base has dramatically shifted, including through consolidations and mergers. And now there are just a few North American graphic paper producers.

I see. So, the switch to digital communication meant consumers didn't need as much graphic paper as they did before.

Yes, exactly. Paper mills saw the decline in demand for graphic paper, and they either scaled back production or they switched to different paper altogether, including switching to producing packaging papers to meet the rising e-commerce demands. And I bet the rise in e-commerce during the pandemic certainly affected graphic paper's demand as well. Didn't it?

Yeah, it certainly did. The pandemic accelerated the decline in demand. Many businesses and schools went away from in-person activities and so people didn't need as much graphic paper to do their jobs. And as people increased shopping online, the demand for packaging paper increased. So, while some paper companies closed their mills during the pandemic, others converted their operations to produce packaging paper.

I see. So, when businesses and schools started opening up again, they needed graphic paper. But the supply wasn't there to meet the returning rise in demand. Yeah, and those paper companies that converted their operations from graphic to paper couldn't quickly revert back. Nor could the companies that scaled operations down return back to pre-pandemic production levels. So, in 2022, the capacity to produce graphic paper trailed behind the increase in demand.

And this is fascinating when you look at this in tandem with price increases seen in paper during this time, we looked at the producer price index, which measures the average change in prices paid to producers of goods and services. We look specifically at the price of pulp paper and allied products, which includes graphic paper, and found it remained relatively steady between 2012 and 2020.

Yep, that's right. But then during the pandemic, paper prices rose sharply, and this followed general inflationary trends that were occurring across the economy.

Exactly. So between August of 2017 and August of 2020, the producer Price Index for pulp paper and allied products rose only about one percent. But by August of 2022, the producer Price Index rose a whopping 29 percent compared to two years earlier.

Also, the massive disruptions in the supply chain hindered paper supply and also affected prices.

Absolutely, John. Diesel fuel prices increased during the pandemic. It exacerbated a shortage of truck drivers and there was a reduction in air travel. Railroad companies took hundreds of trains offline, and the lack of ocean freight vessels and containers caused massive delays at shipping ports.

The international paper market also experienced its fair share of stress. Europe specifically faced challenges recovering from a 16-week labor strike at one of the

largest graphic paper producers. Also, the European Union has banned several Russian paper exports following the invasion of Ukraine in early 2022, and that dramatically decreased the European paper's pie. Exactly. And not to mention the escalating trade tensions between the U.S. and China, another large paper producer created uncertainty in the paper market.

So, when China's paper mills shut down during the pandemic, organizations that relied on Chinese paper had to look elsewhere.

Absolutely. So, all of these factors combined created a shortage of graphic paper globally. And for an organization like the Postal Service that relies heavily on graphic paper, not having an adequate supply causes issues.

Right. And so graphic paper is vital to the Postal Service's businesses, including its internal operations and its mailing stakeholders.

Paper products the Postal Service itself uses and sells like shipping labels, stamps, money orders, and postal marketing have been impacted by the paper shortage. And in fact, at one point in 2022, the Postal Service actually had to delay paper solicitations due to price uncertainties in many of its products.

Right. And as a result, the Postal Service monitors pricing trends for paper products using market data, assessing the current paper market, and evaluating any potential future pricing trends.

The good news is that at the time we wrote this paper, the Postal Service told us that there had been a significant improvement in the paper market, with none of the major paper products having a negative pricing trend in the near future. This pricing trend has also affected mailing stakeholders too, with paper companies scaling back or removing their graphic paper production.

The number of companies that mailers can work with was also impacted if mailers are unable to find an adequate paper supply. It could affect the number of mail pieces that they're sending or even the type of mail that they're sending.

Right. The type of mail being sent is important to some direct mailers. Experienced issues procuring graphic paper for their mailing campaigns.

And so, they tested different types of mailing products. So, for example, a nonprofit switched from sending greeting cards to sending bookmarks as a marketing tool instead, because bookmarks required less graphic paper than greeting cards. Yeah, and changing products is just one technique that mailers have used to mitigate the issues that have to do with the paper shortage. Others have tried to shift to less expensive paper stock.

But this also creates problems for the Postal Service. That's because lower quality paper stock is often not receivable and it may cost the Postal Service an additional labor.

Yeah, but the Postal Service has worked with its mailers to try to alleviate some stress. For instance, it established the testing process for new paper stocks, grades, and weight exceptions. So, some direct mailers just switched the mail to other direct mail products and packaging styles with the help of the Postal Service to ensure machine ability.

Also, the Postal Service has offered to support mailers through mailing promotions and these incentivized trying new techniques for direct mail campaigns. This can include innovations and ink and paper stocks. So the mail receives a discount on their postage and the ability to try mailing paper products that are readily available. And this is especially helpful because postage and paper are the two most expensive parts of direct mailing campaigns.

Exactly. So the paper shortage has caused some issues for the Postal Service and its stakeholders. But there does seem to be some relief on the horizon.

Absolutely. The Postal Service predicts that the future trends for paper products will hold steady or even improve as of early 2023. The experience of both the Postal Service and its mailing stakeholders during this graphic paper shortage highlights the value of the paper supply chain to the mailing industry.

Absolutely. So if you want to find our report on the paper shortage, it is up on our website at [USPSOIG.gov](https://usps.oig.gov). You just select white papers from the pop out menu and there you can find this report and all of our other work. Okay, great. John, thanks for chatting today and thank you to everyone who's listening.