Q2 2020 Earnings Call

Company Participants

- Daniel J. Durn, Senior VP & CFO
- Gary E. Dickerson, President, CEO & Executive Director
- Michael Sullivan, Corporate Vice President

Other Participants

- Atif Malik, Analyst
- CJ Muse, Analyst
- Harlan Sur, Analyst
- John Pitzer, Analyst
- Joseph Moore, Analyst
- Krish Sankar, Analyst
- Pierre Ferragu, Analyst
- Toshiya Hari, Analyst

Presentation

Operator

Welcome to the Applied Materials Earnings Conference Call. During the presentation, all participants will be in a listen-only mode. Afterwards, you will be invited to participate in a question-and-answer session.

I would now like to turn the conference over to Michael Sullivan, Corporate Vice President. Please go ahead, sir.

Michael Sullivan {BIO 16341622 <GO>}

Good afternoon and thank you for joining Applied's second quarter of fiscal 2020 earnings call, which is being recorded. Joining me are Gary Dickerson, our President and CEO and Dan Durn, our Chief Financial Officer.

Before we begin, I'd like to remind you that today's call contains forward-looking statements, which are subject to risks and uncertainties that could cause our actual results to differ. Information concerning the risks and uncertainties is contained in Applied's Form 10-Q and 8-K filings with the SEC. Today's call also includes non-GAAP financial measures, reconciliations to GAAP measures are found in today's earnings press release and in our quarterly earnings presentation, which are available on the IR page of our website at appliedmaterials.com.

And now, I'd like to turn the call over to Gary Dickerson.

Gary E. Dickerson {BIO 2135669 <GO>}

Thanks, Mike. I'd like to start today's call by addressing the topic at the forefront of everyone's mind, the COVID-19 pandemic, which has created unprecedented challenges around the world. My thoughts and best wishes go out to all of you and especially those whose families have been directly affected by the illness. As the situation has evolved over the past several months, our actions at Applied Materials have been guided by two key principles. First, maintaining the trust of our employees, customers, suppliers and partners. And second, focusing on driving initiatives that will allow us to emerge stronger over the longer term.

As always, our number one priority is the health and well-being of our employees and their families. Our workforce remains highly productive, many are working effectively from home and for those working on site, we've implemented strict safety protocols in close collaboration with our medical advisors, customers and suppliers. In our factories labs and logistics centers, we've changed physical layouts to allow for social distancing. Introduced enhanced cleaning and sanitation procedures, implemented health screenings and mandated the use of personal protective equipment.

All our employees and contingent workers have continued to receive full pay and we've introduced additional incentives and benefits for employees supporting our critical operations, while we've been working through certain supply chain constraints, we have remained laser-focused on the needs of our customers and doing what it takes to keep their factories running smoothly and their R&D programs on track.

Across the company, I see amazing examples of our manufacturing, logistics and field operations teams going above and beyond to keep our customers and the industry moving forward in a difficult set of circumstances. We're also to finding new ways of working with customers that not only provide solutions today, but will also create significant benefits over the long term.

Finally, in line with Applied's long-held values to make a positive contribution to the communities, where we live and work, we've created a global charitable COVID fund. The purpose of this fund is to address immediate humanitarian needs and combat long-term effects on local communities and the non-profit sector. We've also donated masks and equipment to medical facilities and in addition, there have been numerous employee driven initiatives across the company, it's inspiring to see these employees stepping forward to help volunteering their time, skills and resources to demonstrate our shared passion to make a difference.

Now let me turn to the agenda for today's call. I'll begin with a summary of our second quarter performance and near-term outlook. Then I'll provide a longer-term perspective on our markets and I'll finish with a summary of our strategy, highlighting some of our recent accomplishments. Later, Dan will give more color on our financial results, operational performance and business environment.

Starting with our near-term business outlook, demand from our semiconductor customers remain strong. In fiscal Q2, our financial performance was negatively affected by our ability to ship systems to customers, as shelter in place and lockdown orders impacted some of our suppliers operations, particularly in the Bay Area in Malaysia [ph]. However, we're in a much better position today. Thanks to the flexibility in our global operations footprint, we've been able to make adjustments and we continue to work closely with our suppliers to ensure they can meet our needs.

Our supply chain remains a critical area of focus. As we enter our third quarter with record orders and a record backlog for our semiconductor and service businesses combined. In terms of the semiconductor industry environment, I will focus my comments on what we currently see in the market and what we're hearing from customers. In foundry logic, demand at the leading edge remains very healthy, with a strong commitment from these customers to build out their factories and push forward with their development road-maps.

However, we're seeing some pockets of weakness in specialty markets, mainly as a result of a pullback in the automotive and industrial sectors. In memory, there are no major changes to the outlook we provided last quarter. We continue to see a positive progression in the market with inventory levels approaching normal and improvements in pricing trends. As a result, we're seeing incremental strength in investment by memory customers as we move through the year.

Based on the visibility that we have today, underlying demand for semiconductor equipment is robust, and even when COVID related effects are taking into account, we still believe that our semiconductor business can deliver strong double-digit growth for our fiscal year. In display, we expect our FY '20 revenues to be close to FY '19. As the industry navigates the bottom of this spending cycle, our display business remains solidly profitable even as we invest in next generation products ready for when the market picks up. Looking further out, we're well aware of global economic concerns.

While I'm not going to speculate on possible macro scenarios, I will share some of the key assumptions that we're using to guide our strategy, which are based on carefully monitoring market indicators and staying very close to our customers. Clearly, consumer spending is a potential headwind for many sectors including the electronics industry. At the same time, the global pandemic is acting as an accelerator for key technology inflections that were already underway. Working from home, learning from home and e-commerce are driving investments in cloud data centers and communications infrastructure.

We expect companies to build stronger business continuity plans, which will include geographic redundancy and increased use of automation and IoT technologies, and the adoption of AI and Big Data remains non-discretionary for many companies. As I've said before, this game-changing technologies will transform entire industries and there will be big winners and losers through the transition. My personal view is that, we will see significant and permanent changes in the way companies operate and prioritize their investments.

In fact, this is already happening in our business and the ways we are working with customers. Over the past several years, we made significant investments in state-of-the-art digital infrastructure, sensors and metrology, data science, machine learning and simulation. The combination of these technologies enables us to reduce product development cycles, speed up transfer of new technologies from lab to fab and optimized cost output and yield for our customers in volume production.

In the past few months, our field and R&D teams have been working with customers to further expand, secure data sharing to enhance remote support and accelerate the deployment of these powerful new tools. In our own labs we also have many examples of R&D teams, increasing utilization and productivity of lab assets by applying creative new strategies for remote operations. While near term actions are being driven by necessity, the long-term benefits of working this way are compelling, as they provide significant time to market and cost advantages for Applied and our customers.

Our long-term perspective about AI and big data, shaping the next decade is unchanged and we see strong potential for certain elements of these inflections to scale faster than previously expected. As I've said before to enable these new computing systems and unlock the potential of AI technologies, major advances in the power performance and area of cost or PPAC of semiconductor devices are needed. Based on recent input from customers, we've updated our PPAC framework to PPACT, where T stands for time to market. Acknowledging the enormous value of speed.

Applied has by far the largest broad portfolio of technologies and products to accelerate the PPACT playbook, which spans creating, shaping, modifying, analyzing and connecting structures and devices. We're the only company with process and metrology under one roof. And we have highly differentiated silicon and packaging lab capabilities. As a result, we have a significant advantage in our ability to accelerate new PPACT innovations for the semiconductor ecosystem.

The capabilities we have built in the multi-year investments we have made are yielding results. According to VLSI Researches recently published report, we outperformed the market in both semiconductor equipment and services last year. Our performance in deposition technology was especially strong, with our PVD business gaining 7 points of share. We also have great momentum in metrology and inspection. Our process diagnostics and control group delivered record revenue in the first half of the year. One of the key contributors to this record performance, is our new optical inspection system that we will be officially launching later this year.

Before I hand the call over to Dan. I will quickly summarize. First, as we navigate the challenges created by COVID-19, we've rally the company around two guiding principles. Maintain the trust of employees, customers, suppliers and partners and focus on driving actions that ensure Applied Materials emerges stronger over the long term.

Second, while we're mindful of potential macroeconomic headwinds, based on what we see and hear today, semiconductor equipment demand remains robust in our supply chain is getting healthier. Third, we remain fully committed to our strategy to accelerate the PPACT playbook in our pipeline of new innovative products and integrated processes has never been better.

Now I will turn the call over to Dan.

Daniel J. Durn {BIO 17483115 <GO>}

Thanks, Gary. Today, I'll summarize our second quarter results and activities, give you an update on the environment and share our current expectations for the second half of our fiscal year. As a reminder, on March 23, we suspended our Q2 guidance, because of the global response to COVID-19 was creating significant challenges across our supply chain, manufacturing operations and logistics. Due to the extreme uncertainty, we also decided to borrow against our revolving credit facility. We promise to provide our investors with an update on this earnings webcast and I'll do that in a moment.

This afternoon, we announced our Q2 results, which were below our original guidance. But solid considering the extreme challenges our has teams faced due to COVID, I'm proud of our employees for putting health and safety first and still doing everything possible to support our customers, both in keeping our factories running and by keeping our R&D programs moving.

Despite the incremental challenges we experienced in the last 6 weeks of our quarter, we delivered AGS and Display revenue that was higher than our original expectations in February. Our Semi Systems revenue was below our original outlook and that was entirely due to COVID related supply constraints and demand remains strong. And while the environment remains fluid, we exited the quarter with the second highest company backlog in our history and record backlog for semi systems plus AGS combined.

For the company as a whole in Q2, on a year-over-year basis, we grew revenue by 12%, increased non-GAAP operating profit by 23% and grew non-GAAP EPS by 27% to $0.89. During the quarter we returned $392 million to shareholders in buybacks and dividends, and announced a dividend increase of nearly 5%. We ended Q2 with nearly $7.4 billion on the balance sheet, including $1.5 billion in credit facility proceeds.

Now I'll share my assessment of the COVID environment, which includes several encouraging developments. Our industry has been designated critical infrastructure in many parts of the world, all of our suppliers have now been able to resume operations and they were recovering to normal output. We've been in very close communications with our customers and their demand indications remain strong. We're mindful of the macroeconomic impacts of COVID, including job losses in the consumer and industrial sectors of the global economy.

But governments have provided strong financial support to workers, businesses and the banking system. As a result of our assessment of the environment, we fully repaid our revolving credit facility borrowings, subsequent to the end of the quarter. We currently have approximately $5.9 billion of cash and investments on the balance sheet, which is an increase of about $200 million compared to our Q1 balance. We are continuing to prepare for the planned acquisition of Kokusai Electric. During Q2 we receive Taiwan's clearance for the transaction and we have one final approval pending from China.

Turning to the business outlook. While I see positive signs, there is still potential for COVID related disruptions around the world. And we're not providing revenue and earnings guidance for Q3. I know there is concern about the risk of further economic impacts and changes in customer investment patterns. But rather than speculate, I'll attempt to help our investors by providing visibility into what we are seeing across our operating segments.

In semiconductor systems, our Q2 revenue would have been nearly $650 million higher, absent related constraints. We hope to recover this revenue in Q3 and Q4, as the supply chain improves. In the second quarter, our semi-systems orders were up significantly and demand is broadening to more customers. Based on what we're hearing from our customers, we believe Q3 semi revenue could be up in the high, single digits sequentially and higher again in Q4, resulting in strong double-digit growth for the fiscal year.

Our services business has proven highly resilient during the crisis and we continue to generate a growing proportion of revenue from subscription like long-term service agreements. AGS posted its first $1 billion quarter ever in Q2 with nearly 60% of revenue coming from service agreements. In Q3 we believe AGS revenue could be flat to slightly higher sequentially and higher again in Q4. Within AGS, our semi Parts and Services business has grown to $3.2 billion or 24% of our company semi-related revenue. VLSI Research has begun to size and compare the parts and service revenue of companies in the industry.

Ours is the strongest among our peers, both on a dollar basis and as a percent of our semi-related revenue. Our total semiconductor installed base business, which includes parts, services, 200 milli-meter systems and 300 milli-meter upgrades and refurbs has grown to become 38% of our semi-related revenue. This ratio is about 5 points higher than our peers.

As Gary indicated, we still expect our display revenue to be nearly the same this year as last. We believe revenue is likely to be flat to slightly higher sequentially in Q3 and higher again in Q4. In short, if the demand indications from our customers hold and our supply chains continue to improve, then we should have second-half weighted Revenue in each segment. Based on everything we see today, this would translate to sequential revenue growth and earnings growth in Q3 and then again in Q4.

So in summary, while the situation remains fluid and macroeconomic impacts are still unknown, our customers remain committed to their technology road maps and our signaling growth for Applied. We will remain vigilant, stay close to our customers and be ready to respond quickly, if the environment changes. Once again, I'm incredibly proud of our employees for their strong commitment to health and safety and their strong support of our customers, both in meeting today's demand at our factories and theirs and innovating in our R&D labs to enable the technology of the future.

Now Mike, let's begin the Q&A.

Michael Sullivan {BIO 16341622 <GO>}

Thanks, Dan. There are a lot of people on the call today. So to help us reach as many of you as we can. I'm going to ask you to please ask just one question and not more than one brief follow-up. Operator, let's please begin.

Questions And Answers

Operator

(Operator Instructions) Our first question comes from the line of CJ Muse with Evercore. Your line is now open.

Q - CJ Muse

Yes, good afternoon and thank you for taking the question. I guess, first question, you talked about expectations for incremental strength for memory through the calendar year. I was hoping, perhaps you could elaborate on that in terms of next between both NAND and DRAM, as well as new wafer starts versus strengthen. What gives you the confidence that, that is sustainable in this world of COVID.

A - Gary E. Dickerson {BIO 2135669 <GO>}

Thanks CJ. As we look in the year, we see the year profiling pretty similar from a proportion of spend standpoint that we talked about a quarter ago. We see strength in foundry, logic continuing throughout the year as our order book and customer base broadens and we feel good about that. As we profile to memory, we talked about seeing some incremental strength this year, both on DRAM and NAND. I think it's too early to call the magnitude of that, but we do see balance across the device types from a spend standpoint. And I do think there is going to be similarities in terms of 2019 being an investment year primarily focused on technology road maps and we actually saw wafer starts per month last year 2019 actually go down year-over-year in both DRAM and NAND.

And as we look into this year, we don't really see strong capacity adds, we continue to see our customers driving their technology road maps. Because that is an effect their cost structure, it allows them to drive margins and cash flow when industries recover. So we see continued investments from a technology road map standpoint, but we see probably less wafer starts per month coming out of the system, than we did the year before. So it's sort of on the margin, we continue to stay close, we will watch it and we'll continue to be open and transparent in an environment that's defined by uncertainty.

What we want to try to do is be as helpful as possible, share with investors of the things we're seeing and hearing from our customers and we'll let you know what we see each quarter as the situation evolves.

Q - CJ Muse

That's helpful. A quick follow-up, Mike On gross margins, can you speak to how you see the trajectory into the second half? Considering what looks to be a positive mix from both silicon and AGS. And also as it relates to supply chain, and I think you took out 8 million of COVID related expenses. Is that something that should sustain into the back half? How we should we be thinking about that? Thanks.

A - Gary E. Dickerson {BIO 2135669 <GO>}

Thanks, CJ. I'll take both, as we think about the actions the company took in the current environment, we made conscious decisions about how we were going to position ourselves from an operating and manufacturing standpoint and decisions were made very early in the process. We implemented our business continuity team in the middle of January. And as part of contingency planning and mapping out potential points of risk, we made decisions to put in place surge capacity from a personnel standpoint and that decision was made probably the first week of February.

So clearly there is an impact to maintained cycle times and throughputs that are on par with where we were before COVID, that's a result of really strong teamwork and execution and planning. But it certainly has a headwind from a margin standpoint and we're optimizing around serving our customers and taking care of the things that we can take care of. So we can better withstand the things we can't control, which is what we saw from a supply chain disruption standpoint and the rate and pace of that recovery.

So we feel good about that, but certainly it does create a bit of a headwind. And you see that profiling through some of the segments and I'm happy to share more of that thinking, but it's definitely there. From a gross margin standpoint, as we look into next quarter, what we signaled was a favorable segment mix and in a normal environment that would create improvement from a gross margin standpoint. What I'd also say is, what we experienced in our most recent quarter was 6 weeks of impact of a material supply chain disruption driven by a concurrent shelter in place order in the Bay Area and Malaysia. It affected a material part of our supply chain, but it was a 6-week impact.

Going into Q3, we've got a full 13 week impact as the supply chain becomes healthier and that will sort of offset a bit of the favorable segment mix. So I think the best way to think about our gross margin as we look into Q3 from a planning assumption standpoint is to think about flat, if we can do better, we certainly will. But we'll take it one quarter at a time and give investors our best view of what we see and the pluses and minuses as we manage the business to the best of our ability in this environment.

A - Michael Sullivan {BIO 16341622 <GO>}

Thanks, CJ.

Operator

Thank you. Our next question comes from the line of Atif Malik with Citi. Your line is now open.

Q - Atif Malik {BIO 7312618 <GO>}

Thank you for taking my questions. I have two first part to Gary, company gained half a point of equipment share last year in served (inaudible) markets led by deposition, which end markets of technologies are you more confident to show outsized growth this year and next year? And as a follow-up. Dan, I'm curious what your take is on recent Department of Commerce China equipment licenses for the future shipment.

A - Daniel J. Durn {BIO 17483115 <GO>}

Thanks for the question. I think I'll take both of those. So let me start with market share and starting from an overall company perspective, one of the things that we've discussed before, is that we have very good balance across all device segments, including leading and trailing logic DRAM and NAND. This enables us to perform well really regardless of the device mix. It gives us ability to perform well, in pretty much any environment.

So if we look at overall, 2019 was a good year for us. Your question, I think as related to 2020. We look at 2020 as also a very good setup for us. As I said in the prepared remarks, we anticipate strong double-digit growth for Applied in 2020. And what I would say is that in this new environment, I used to travel a significant amount. And I'm still on the phone, very frequently with CEOs, R&D leaders. In fact, I had a call with one of the CEOs this morning. And one of the things that's a real advantage for Applied is the traction we have with customers to accelerate their PPACT road maps and that really is both for memory and also for foundry and logic.

So performance in 2019, we gained about 2 points in the markets that we serve and a 0.5 point overall WFE share. So if we look at the setup for 2020, we continue to see strong foundry, logic investments where we have leadership products PVD, Epi strong traction in new etch applications. We see currently double digit growth in our memory business, strong double-digit growth in memory, gaining traction with new capabilities that are key for scaling and strong growth in memory patterning applications.

So overall, again we have balanced across all of these different segments. I would say that our pipeline of our new products in our Integrated Materials Solutions has never been better, relative to accelerating PPACT roadmaps for customers. Then the second question is around, I think the export controls. So let me start with perspective of the overall geopolitical situation. And I've said before on this one, Applied believes in fair trade and intellectual property protection. The semi ecosystem and innovation roadmap rely on these principles. So regarding the new regulations that were recently announced by the Department of Commerce, we're working very closely with the US government, trade associations and our advisors to better define the requirements for the industry and to be able to comply with the new regulations.

We have some very good people working on this and based on our work to-date, our current expectation as Applied is going to be able to meet the government's required standards, when the rules come into effect at the end of June without significant disruptions to our business. If needed, we have significant flexibility in our global operations footprint and we are developing contingency plans that we could implement.

But again, overall we believe we're going to be able to meet the government's required standards when the rules become effective.

A - Michael Sullivan {BIO 16341622 <GO>}

Thanks, Atif.

Operator

Thank you. Our next question comes from the line of Toshiya Hari with Goldman Sachs. Your line is now open.

Q - Toshiya Hari {BIO 6770302 <GO>}

Good afternoon and thank you very much for taking the question. Gary, I was hoping you could give us an update on your business and in China, both on the memory side as well as the logic and foundry side. One of your foundry customers just raise CapEx. I think it was yesterday by 1 billion plus. I'm guessing activity on the memory side continues to be pretty robust as well. But if you can give us an update on what you're seeing near term and what your expectations are for the second half that would be great and then I've got a quick follow-up.

A - Gary E. Dickerson {BIO 2135669 <GO>}

Hi Toshiya, I'll jump in on that question. So as we think about China, let's talk about where we ended 2019 and use that as a jumping-off point to talk about what we see incrementally into 2020, as it relates to domestic China spend. So if we look back into 2019, the market sizing was about $6.5 billion. And a quarter ago, we set our expectation for 2020 was an incremental 2 billion to 3 billion of domestic China spend.

Our expectation in 2020 is still 2 billion to 3 billion, but now given the customer news overnight, we're probably at the high end of that range. And so a quarter ago, as we think about the decomposition of that incremental spend, we said about one-third 200 millimeter trailing node foundry specialty logic spend two-thirds of it was 300 millimeter. And as you decompose the 300 millimeter spend, it was roughly split 50-50 between foundry, logic and memory, with balance among device types in memory.

And as you think about us at the higher end of the range now, think about incrementally more spend in 300 millimeter trailing node foundry logic and I think that gives you an evolution of that spend profile of how the now $2.5 billion to $3 billion is spend towards the high end of that incremental range. That's the best insight we have at this point based on everything we see in the market and what we're talking with our customers about.

Q - Toshiya Hari {BIO 6770302 <GO>}

That's helpful, Dan. Thank you. And then I think this one is for Gary. I just wanted to follow up on some of your market share comments. I think you said, you gained 7 percentage points of share in PVD. I was curious what you're seeing on the outside in terms of market share and you also spoke to your new product and optical inspection. If you can kind of speak to the differentiating factors for your tool than the some of the competition and what your aspirations are over the next couple of years in terms of market share. That would be great. Thank you.

A - Gary E. Dickerson {BIO 2135669 <GO>}

Yeah, sure. Let me start with the PDC business overall. And then I'll answer the question. So our inspection measurement business is one of the segments where we have strongest momentum. We talked about the record last quarter we had in the first half of FY 2020. And this is far above our previous best half year for the business. We've got strong, we will achieve strong double-digit growth overall in 2020 in semi and this segment will be one of the highest growth businesses for us this year. The inspection and measurement business.

Relevant to the new optical inspection system, we have tremendous momentum with that system. We'll launch it later this year. Very, very strong adoption in foundry and logic. I'd say the other thing that is positive relative to our PDC business is in eBeam. We have a strong leadership position, we have also some new capabilities there. The highest resolution imaging technology in the industry and very strong initial adoption with new capability there with leading customers. So again, we're off to a great start in 2020 and PVC and I would say the best position that we've ever had relative to that business.

That's also -- I think as you know, we've had tremendous growth in the conductor etch business about 5 times in terms of revenue growth between 2020 and 2018. And this is also where we have the -- probably the best product, most successful product ever in the history of Applied Materials (inaudible). Relative to 2019, we gained about 0.5 point of overall etch share and in 2020, we also anticipate strong double-digit growth in etch. We have good momentum in memory significant traction with all leading customers in foundry, logic where we haven't had very high share has been very low in the past, we have really significant traction there and a new product and packaging that also have strong, strong momentum.

So overall we anticipate strong growth in 2020 and we have good momentum with new capabilities and confidence that we're going to continue to grow etch share going forward.

A - Michael Sullivan {BIO 16341622 <GO>}

Thanks Toshiya.

Operator

Thank you. Our next question comes from the line of John Pitzer with Credit Suisse. Your line is now open.

Q - John Pitzer {BIO 1541792 <GO>}

Yes, good afternoon guys. Thanks for letting me ask the question. Dan, I think I just wanted to try to better understand the impact of the supply constraints you're seeing from

COVID. You talked about impacting the April quarter by like 650 million. And you said, you'd be able to make that up in both the fiscal third and fourth quarter. But then you also said in an answer to question that, you have some gross margin headwind in the fiscal third quarter, because you'd have 13 weeks of sort of these supply issues. And so I guess my question is, is supply also impacting what you can ship in the fiscal third quarter. If so, by how much and when do you think we get to a situation where you guys can actually meet the demand that's on your books.

A - Daniel J. Durn {BIO 17483115 <GO>}

Yeah. Thanks, John. Let me try to unpack it a little bit for you and give you a sense of how we think about it. Hopefully, that gives you insight that addresses the question. And if I miss something, please let me know and I'll definitely follow up. So as we think about where the supply chain is and how the supply chain gets healthier over time. I think it's important to break it up into 3 components. And we'll deal with each of these 3 buckets and sequence.

The first, our suppliers back in business, raising their staffing levels and getting back to pre-COVID levels of output. That's sort of a set of issues bucket one. Bucket two, how quickly can they make up for lost volumes and then the third bucket is the logistics channels and how they get healthier over time. And so as we think about the time sequence and overlay of each of those three vectors, all of our suppliers are back in the game. They're working back to 100% staffing levels and getting back to pre-COVID levels of output. I think exiting our fiscal Q3, I think a good portion a disproportionate share of that will be behind us.

That leaves then second bucket, which is how quickly can you make up for lost volumes. I think that happens given the robust environment we see. I think that happens over our fiscal Q4 and our fiscal Q1. So exiting the calendar year, it should be a direct read through on true end market demand in terms of our business activity. Based on what we can see today that looks like the trajectory.

The third bucket the logistics. This is something that's going to be a longer-term issue to get back to normal. And the reason I say that is, there is a correlation between the commercial airline industry and the logistics channels. What I mean is, if we're not shipping a full system -- full systems, they'll go on special freighter aircraft. A lot of what we do, short of a full system will ride in the belly of a commercial aircraft. We've had the pivot that to alternative freight and logistics channels. And the costs associated with that have risen and create a margin headwind. Given the correlation to the health of the commercial industry, I think this one is with us for the foreseeable future and we're likely to have those increased freight and logistics cost stick with us until we can see the degrees of freedom in commercial aviation, begin to get much healthier and more active versus the levels today.

So if you hear my comments about that margin headwind being around for a while, I sort of disconnect that from the fundamental health of the supply chain. I think we're back -- our suppliers are back to pre-COVID levels of output exiting the current fiscal quarter. I think the balance of the calendar year we make up for lost volumes, hard to predict at this point when the commercial aviation channels begin to free up to something similar to what we saw pre-COVID. Hopefully that shed some light on how we're seeing things John and answers your question?

Q - John Pitzer {BIO 1541792 <GO>}

That's really helpful. And then as my follow-up. Gary, there's been a lot of investor focus on the opportunities you might have in China and maybe some of the risks associated with that from just a geopolitical perspective. Over the weekend, we kind of got a different flavor of that with some arguments about perhaps more domestic manufacturing of leading-edge semiconductor, its not only here in the US, but there were some articles out of Japan. I guess I'd be curious, I know it's early, I'd love to get your thoughts on this potential drive for more sovereign manufacturing of leading-edge chips. And as you think about that opportunity, with this be sort of redundant capacity in your estimation or would it be growth capacity or how do you think that plays out over the coming years?

A - Gary E. Dickerson {BIO 2135669 <GO>}

Yes, thanks for the question, John. So this has been discussed for a while, but the focus certainly has been increasing with the current geopolitical situation. I can't of course, share any details of any discussions I've had with anyone on the topic. But for sure, this is a good opportunity for the United States and also for Applied and we'd be very supportive of making the concept of success. If we look at when our customers go into different geographic regions, it does create a good opportunity for us. If we look at some of our major customers, I'm not going to talk about any one in specific. But it creates a really great service opportunity for us as they move into a different geographic location, where they don't have the same nucleus or critical mass of technical horsepower.

So as we've had discussions with some of the customers that are thinking about, moving into different geographic locations, support of course is one of the key aspects of their decision making. And so again, I think it could be a really good opportunity for Applied Materials and certainly from a geopolitical standpoint, a good thing for the United States for this opportunity. Thanks, John.

Operator

Thank you. Our next question comes from the line of Krish Sankar with Cowen and Company. Your line is now open.

Q - Krish Sankar {BIO 16151788 <GO>}

Yes. Hi, thanks for taking my question and congrats on the operating in such a tough environment, but the results. So first question either for Dan. When I look at the second half, you said that there's going to be 60 million that got impacted in April. That's going to flow through in the second half of this year. If you strip out the 650 million. Is it fair to assume second half revenues would be lower than the first half revenues and then I had a follow up.

A - Michael Sullivan {BIO 16341622 <GO>}

Yes, Krish. Just give me a second to pull up the model. Yeah, I wouldn't necessarily say that's true and here's why I go there. First, we talked about supply chain, getting back to pre-COVID levels of output throughout out fiscal Q3, so that's an exit rate comment. And implicit in that exit rate comment is the fact that they're not able to supply true end market demand throughout Q3. And we exit Q3 as Gary talked about in his prepared comments with record backlog in our semi-related business. SSG plus AGS and actually record orders in Q2 as well.

So demand continues to be strong and the supply chain will get healthier exiting Q3 and then make up volumes from unmet demand to-date through Q3 -- I'm sorry, fiscal Q4 and fiscal Q1. So we think we exit the calendar year shipping to true end market demand. So there is a bit of a bleed over of this dynamic into the next fiscal year. And so I think given what we've seen from an order standpoint and what we're entering Q3 with, from a backlog perspective, I still think we see strength in the back half of our year.

If we break that down by device type, what do we see -- we see continued strength throughout the year in foundry, logic. We talked about a broadening of our order book in foundry logic. We talked about multiple customers, multiple nodes. We talked about some softness, as it relates to things like auto and industrial and consumer end markets. And that's more trailing node geometries, what we're seeing on the leading edge continues to be strong. As we think about memory, a quarter ago we talked about the second half of the year, being the swing factor and that construct still holds. From a memory standpoint calendar year Q4 is still beyond the horizon of visibility. And so we do think we're in a strong environment and we think the company performed pretty well in the back half of the year, even without the 650 million that the -- we were unable to meet in the most recent fiscal quarter.

Q - Krish Sankar {BIO 16151788 <GO>}

Got it. That's very helpful, Dan. And then just as a follow-up. Thanks for the color on your view on the Commerce Department ruling? And curious on the services side, how much of your revenue comes from China. And if you assume things go negative with the Commerce Department ruling for you or for the US semicap companies, what happens to the service revenue associated especially in the foundry side, when you have existing tools out there.

A - Daniel J. Durn {BIO 17483115 <GO>}

So thanks, Krish. Let me just try to walk through a little bit of a construct. As we think about the business we do in China today, there we do both semiconductor business and display business. I'm going to walk you a bit of through a bit of a framework of how to think about it, to get a sense of how much Service business is done in China. So just bear with me as I walk you through this framework. So we do both display in semiconductor business as you know in China. So if we take 2019, you had about 29% of our overall company revenue done in China.

We've got a large display business, 1.6 -- almost 1.7 billion in fiscal year 2019, the vast, vast majority of that business goes into China. So if you extract that from the overall China business that gives you a pretty good look at the size of the semi systems and Service business that's done in China. If I then disaggregate it and take the Service segment out of that revenue pool and you think about kind of the corporate average service to semi systems. It's kind of a 70/30 split, give or take.

And so I think that gives you a sense when extract that display revenues, you got a clean the look through on the semi-related business in China. And then you think about it as a 70/30 split it gives you a sense. But you also have to keep in mind that service business and systems business service, both multinationals and the domestic industry and the rough order of magnitude of how the systems business splits up across those two dimensions. Think of it may be 65% domestic 35% multinational that gives you a rough framework of how to think about the decomposition of the China business and hopefully that helps give you a little insight into how to think about that business without being point specific, because we don't disclose that level of detail.

A - Michael Sullivan {BIO 16341622 <GO>}

Thanks, Krish.

Operator

Thank you. Our next question comes from the line of Harlan Sur with JP Morgan. Your line is now open.

Q - Harlan Sur {BIO 6539622 <GO>}

Good afternoon and thanks for taking my question. On the foundry/logic side, the leading foundry supplier has steadily move down the path of Moore's Law. On the equipment industry has certainly benefited from their aggressive technology migration cadence. Now it looks like that your large logic customers also getting back on track to executing to 2, 2.5 year cadence or node migration after about a 3 or 4-year pause and probably a lot of view. So now that you have multiple large customers in foundry and logic moving at an aggressive cadence over the next few years. How are you guys thinking about the mix of WFE spend foundry logic versus memory over the next few years?

A - Gary E. Dickerson {BIO 2135669 <GO>}

Yes, thanks Harlan. So as we take a look at what happened in 2019 and then talk about what we see in 2020, but then I also want to project forward. So just kind of breaking it down a little bit. We talked about a quarter ago WFE being about $51 billion, $52 billion in 2019. We think we see the market pretty well. Subsequent to our earnings call, a quarter ago, VLSI came out and sized 2019 at $51.5 billion. So right in the middle of how we were thinking about it. So we feel good about that view and it's a good number around 2019.

We think about how you decompose that WFE number in 2019 by device type and it's roughly 60% foundry, 40% memory -- balance across the two device types in memory. That gives you a rough order of the structure of the market in 2019. And while, I think it's premature to data size of the market for a variety of reasons that we can go into, premature to size the market in 2020. We think the rough order of split by device type looks and feels similar to what we saw in 2019.

So again another year of 6 foundry logic, 40% memory with balance between device types. As we look forward, we talk about the new playbook, we talk about the suite of innovation that this company is bringing to market, the ability to integrate those technologies, the ability to drive on board sensors and metrologies to dial-in process recipes faster. There is a clear enablement strategy by this company to drive our customers power performance area cost and time road maps. We think we're incredibly well positioned to do that against the backdrop of rising capital intensity over time.

With time being a really important element of this, we play -- we have the opportunity to play a really valuable role with our customers and driving that time to market dimension across that new playbook and that puts us in a really strong position competitively. And we think the dynamic of the position, the innovation where the market's going in terms of time to market, as well as rising capital intensity, we feel good about where the spend profile and foundry logic is going over time. So while I can't be point specific going forward, I think I give you some insight in terms of how we as a company are thinking about this trend off of where we sit today.

Q - Harlan Sur {BIO 6539622 <GO>}

Yes, extremely helpful. Thanks for the insights there. And then within your framework for the fiscal second half of the year from a revenue perspective, how should we think about the trajectory of OpEx for the remainder of the fiscal year from the Q2 levels?

A - Gary E. Dickerson {BIO 2135669 <GO>}

So if we go back a quarter, we said for the last three quarters of our fiscal year, we would -- from a planning assumption standpoint, think about 820 million of OpEx per quarter. As you can see in the current environment clearly their savings from a travel standpoint, but the company also did a good job from a discretionary spend perspective in R&D as a percent of OpEx in the most recent quarter is almost 70%, 69.5%. The company is doing a really good job controlling discretionary spend and we are able to do better than that original guidance around 820.

I think given where we sit today in an environment that's defined by a little bit higher operating expenses, I think a good planning assumption for us is to keep the 820, as the right way to think about it. This is a company that will always be disciplined around what we do and how we do it. There is no sacred cows and no entitlement to spend. We will be very disciplined around discretionary spend and make sure that we channel those resources towards fuel for future growth. But 820 is the right assumption in the back part of our fiscal year. There is an opportunity to do better. We certainly well.

A - Michael Sullivan {BIO 16341622 <GO>}

Thanks, Harlan.

Operator

Thank you. Our next question comes from the line of Pierre Ferragu with New Street Research. Your line is now open.

Q - Pierre Ferragu {BIO 15753665 <GO>}

Hi, thanks a lot for taking my question. It's very, very refreshing to hear you talking about the rest of the year. We said with them, I would say, a good there. A nice dose of optimism. It's nice to see that the value chain is going -- it seems to be well engaged. And I was just trying to think through what would be the downside risk against your current view? So if you're thinking 2020 could be in line with 2019, that's in the context of still a lot of uncertainty being out there. And to me the big uncertainty is end demand and the general macroeconomic environment.

And so I was wondering in a world in which things do not recover in the second half and actually is a macro environment, is very difficult and in particular consumer demand for smartphones, for PCs, for consumer electronics, get badly hit. How do you think it's going to affect investment plans of your clients? And maybe another way to put it is, in the revenues you see between now in the end of your fiscal year, how much do you think it driven by, like the technology train, and it's going to happen, it has to go through. And how much could be actually adjusted down, if the industry has to scale down significantly on capacity and manufacturing volumes? Thank you.

A - Gary E. Dickerson {BIO 2135669 <GO>}

Okay, Pierre. Let me just try to -- that there's a lot in there. Let me try to hit these. So first, I want to just maybe address the framing of the question. When we said profile in 2020 similar to 2019 that was kind of a percent split across device types. I think it's too early to be point specific on the aggregate dollar amount of WFE spend. But what we want to do though is communicate in an attempt to be helpful, communicate about what we see and hear from our customers and what we see in here in our business and then extrapolate that towards a view on a market.

So what do we see in our business, we see Q1 of our fiscal year, our semi-related businesses SSG and AGS up 18% year-over-year. Q2, we saw strong demand, but we're actually supply chain limited. Despite that, we are up 13% year-over-year in those two businesses. So the first half of our fiscal year were up about 16% year-over-year in our semi-related business. We entered Q3 record backlog in those two businesses.

And based on what we're seeing and hearing for customers, we're planning for Q3 to be up sequentially. And then we're expecting it to be up again in Q4 and our view for the fiscal year is strong double-digit growth of our systems business. Now as we think about WFE in the back half of the year, the best framing that I can give you independent of what we see and hear from our customers. Because we feel good about our business, what we see in here -- I'm sorry, what we -- the best way to frame the back half of WFE, I think there is going to be two factors that influence WFE in the back half of the year.

There is, what the customers do and then there is what the supply chain does, as it gets healthier. And we know and are aware of the economic -- macroeconomic environment, we're aware of what's going on. We see pluses and minuses, cloud, data center, PC, com infrastructure are still showing signs of strength. It's offset by softness in things like auto, industrial, consumer, travel, leisure. So we do have that push and pull from a macroenvironment standpoint and we see those pluses and minuses playing out in the market. Too early for us to decide how that ultimately plays out, then you have to overlay the comments we made on the supply chain. The combination of those two will influence the shape of WFE in the back half of the year. That said, we feel good about where we sit looking into our Q3 and our Q4.

Q - Pierre Ferragu {BIO 15753665 <GO>}

Thanks, Dan.

Operator

Thank you. Our next question comes from the --

A - Michael Sullivan {BIO 16341622 <GO>}

Operator, if you don't mind, I just wanted to let you know that we have time for just one more question. Thank you.

Operator

No problem. Our last question comes from the line of Joe Moore with Morgan Stanley, your line is now open.

Q - Joseph Moore {BIO 17644779 <GO>}

Yes, thank you. I wonder, just in terms of the way that you've characterized the coming quarter. You didn't give guidance, but then you gave fairly specific segment guidance. Can you just talk about the message we should be taking away from that. Is that just with the -- we're giving us the segment guidance. But there is uncertainty around that and why not just guide with a wider range, if that's the case?

A - Gary E. Dickerson {BIO 2135669 <GO>}

Yes. Thanks, Joe. I wouldn't read anything into it other than -- if we were to go back 3 months and think about our Q1 earnings call. What we knew at the time was we had a hot spot in China. The rest of the globe was fine based on what we saw we derisked our guide by 300 million and we talked about it being a 150 million semi systems, a 100 million in display and 50 in AGS. And against that backdrop, we executed really well in display and AGS. We fell short in semi systems and then you ask yourself, why we fell short. There was a concurrent shelter in place order issued for 6 weeks of our quarter that impacted a material part of the supply chain that was unknowable at the time we guided a quarter ago.

And given the potential for other aspects of this COVID pandemic to spring up in unexpected places, we felt it was prudent to not guide. But share and an attempt to be helpful, share what we're seeing in the business. And we tried to strike the right balance between openness and transparency and trying to be helpful without putting a number out there that there's things that could potentially happen.

We have no control of we can't execute our way out of a complete shutdown of our supply chain and nursing it back to health that impacted 6 weeks of our quarter. That wasn't a unknowable event at the time we guide. So it's nothing more than trying to strike the right balance between that transparency and prudent in an environment, recognizing the elevated macro risk of where we sit today around the world.

Q - Joseph Moore {BIO 17644779 <GO>}

Okay, that's helpful. Thank you. And then in terms of the second half memory spending of -- I guess when I talk to them -- your memory customers, there is basically sounding like Q2 is pretty solid. Still, but most of them are conveying a fair amount of uncertainty as to the back half. You're talking about memory companies not being a leading indicator and it seem to be getting ready for a variety of scenarios. So as you think about that, spending pattern is enough of it technology spending that you feel like this is pretty solid kind of regardless of the memory pricing environment or some of it. I guess, just what is any vulnerability to conditions worsening in the second half?

A - Gary E. Dickerson {BIO 2135669 <GO>}

So what I would say to that is, we shared with you, what we're seeing and hearing from customers today. I think we recognize that there is pluses and minuses that play in the market. We tried to be open about what we're seeing on both sides of that ledger. And what I would say is, we're just going to continue to be very vigilant at the business, we're going to be ready to respond quickly as the situation evolves. We'll continue to be transparent and we will let you know what we see each quarter. But hard at this point to call it with precision exactly how that unfolds and profiles in the back part of the year. And so let's take it one quarter at a time and we'll share with you what we see along the way.

Q - Joseph Moore {BIO 17644779 <GO>}

Great, thank you so much.

A - Michael Sullivan {BIO 16341622 <GO>}

All right. Thanks, Joe. Dan anything you'd like to say before we close the call?

A - Daniel J. Durn {BIO 17483115 <GO>}

Sure, Mike. I'd like to share best with -- I'd like to share our best wishes to everyone who has been affected by the COVID situation. I'd also like to sincerely thank our employees for adapting to a difficult environment and showing strong support for our customers. They've done a truly strong job and we appreciate it. Our company is privileged, it's privilege to play a big role in enabling the work from home and the learn from home and enabling those technologies that the world needs right now. We're mindful of the macroeconomic risks, but our business is broader, more resilient than it has in the past and we continue to see strength throughout the second half of our fiscal year.

We will stay close to the investors throughout this situation. Gary and I we're going to be at the Bernstein Conference in a couple of weeks. I'm going to attend events hosted by Needham & Cowen and BofA. So we hope to see many of you soon. Stay safe, be healthy and Mike will close the call.

A - Michael Sullivan {BIO 16341622 <GO>}

Okay. Thanks, Dan. And we'd like to thank everybody for joining us today. A replay of our call is going to be available on the website by 5:00 PM Pacific Time. And we would like to thank you for your continued interest in Applied Materials.

Operator

Ladies and gentlemen, this concludes today's conference call. Thank you for participating. You may now disconnect.